MAKING MODERN LIVING POSSIBLE

User Guide

ECtemp 535

Electronic Intelligent Thermostat

www.EH.danfoss.com

Table of Contents

1 Introduction 4
1.1 Safety Instructions 5

2 Settings 6
2.1 Increase/Decrease Preferred Temperature 7
2.2 Time and Day of Week 7
2.3 Periods with Lowering of Temperature 8
2.4 Minimum Floor Temperature . . 14
2.5 Frost Protection 15
2.6 Safety Lock 16
2.7 Switching Between Floor and Room Temperature 16
2.8 Turning the Thermostat On and Off 17

3 Error Messages 18

4 Warranty 20

5 Disposal Instruction 20

1 Introduction

ECtemp 535 is a electronic timer temperature controller specially designed for floor heating systems.

Once set, the thermostat automatically adjusts the heating to meet your comfort levels regardless of changing weather conditions by measuring the floor temperature and combining it with the room temperature.

Even the programming of economy temperatures (i.e. lowering of temperature during the night and when you are out of the house) is very simple. Just choose the programme that fits your daily rhythm best.

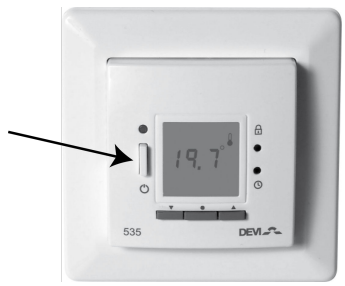
Furthermore, the thermostat features a minimum floor temperature setting, eg. for keeping your tile floors warm in summer as well.

1.1 Safety Instructions

Please observe the following guidelines:

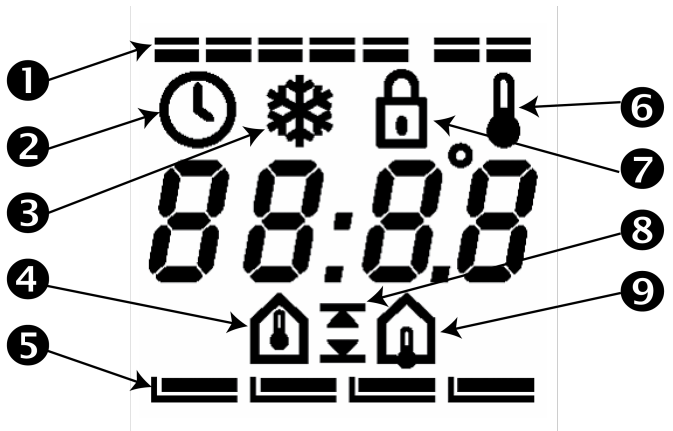
- Do not cover the thermostat, e.g. by hanging towels or similar items in front of it! This will impair the ability of the thermostat to sense and adjust the room temperature correctly.
- Do not spill liquids of any kind into the thermostat.
- Do not open, disassemble, or tamper with the thermostat in any way.
- If the thermostat is installed in a place frequented by small children, use the safety lock.
- Do not interrupt the power supply to the thermostat.
- The installation of the thermostat must be done by an authorized and qualified installer according to local regulations.

The thermostat has a safety switch. When turned off, all electrical supply to the thermostat is disconnected.



2 Settings

Using clear visual symbols, the display of the thermostat shows active and selected functions, the actual temperature and the time:



1. Days of week
2. Settings
3. Frost protection
4. Room temperature
5. Day rhythm periods and comfort / economy temperature
6. Actual temperature is displayed
7. Safety lock
8. Maximum / minimum temperature
9. Floor temperature

2.1 Increase/Decrease Preferred Temperature

How to increase or decrease the temperature

1. Press the arrow buttons ▲▼ to either increase or decrease the temperature. The temperature is changed in increments of 0.1°C.

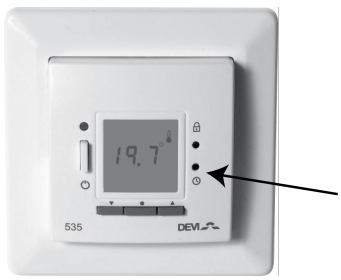
2. Press the • button to accept.

Note: If the thermostat is configured to use a floor sensor only, and you try to increase the temperature above the maximum floor temperature limit, the corresponding symbol will flash on the display.

2.2 Time and Day of Week

How to set the time and day of week

1. Press the clock pinhole with a small screw driver, pencil, or needle. The display now changes from temperature to time display.



2. Press the • button and the hours start flashing. Use the arrow buttons ▲▼ to select the hour.

3. Press the • button and the minutes start flashing. Use the arrow buttons ▲▼ to select the minutes.

4. Press the • button and the day of week start flashing. Use the arrow buttons ▲▼ to select the day of week. The seven top bars indicate Monday through Sunday.

5. Press the • button to accept.

2.3 Periods with Lowering of Temperature

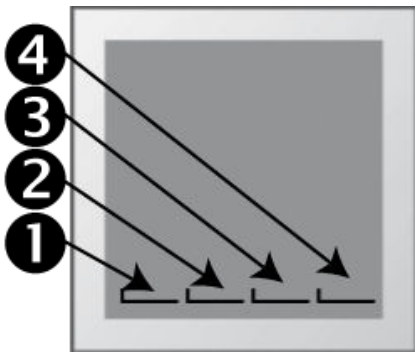
With ECtemp 535 you have the possibility of either setting the thermostat to keep a constant temperature, or let the thermostat automatically switch between periods with a lower temperature (also called economy temperature) and periods with comfort temperature.

Using the Timer Function

In order to automatically switch between comfort temperature and economy temperature (e.g. when going to bed or to work), the timer function is used. A status bar in the bottom of the display gives an overview of timer status.

The day is divided into 4 time periods (see image): morning ❶, day ❷, evening ❸ and night ❹.

The start time of each period can be configured.



The period symbol can be: Empty ⌊‾‾‾ (thermostat is in economy mode) or full ⌊▬▬ (thermostat is in comfort mode)

Default timer settings

By default, the timer has the following settings:

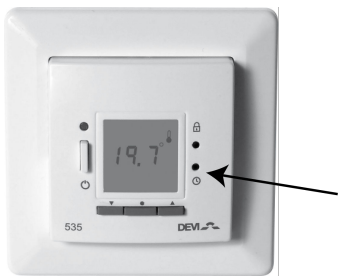
	Floor sensor only	Room sensor only	Floor and Room sensor
Temperature:			
Comfort	25 °C	21 °C	21 °C
Economy	5 °C	17 °C	17 °C
Periods – Day rhythm:			
Morning	06:00-08:00		
Day	08:00-16:00		
Evening	16:00-22:30		
Night	22:30-06:00		

You can use these settings as they are, or you can change them to match your day pattern.

Return to Default Timer Settings

1. Turn off the thermostat.

2. While pressing the pinhole button, turn on the thermostat.
   The LED indicator will now flash red/ green for 1 second indicating the thermostat will reset.



Timer Programs

Four different programs can be selected.

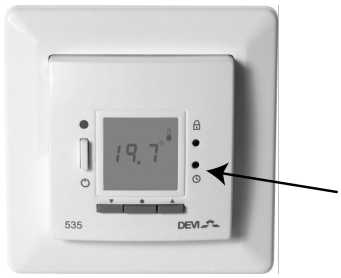
Program 1	Manual mode. A constant temperature is maintained 24 hours all week.
Program 2	The temperature is lowered to economy temperature during the day and night period all week. P2 is a day program for e.g. working days where the temperature is decreased during the middle of the day and at night. In the morning and evening, comfort temperature is preferred.
Program 3	The temperature is lowered to economy temperature during the night period all week. P3 is a program for days at home where comfort temperature is preferred during the day and a economy temperature at night.
Program 4	A week program where: Mon – Fri: Program 2 and Sat – Sun: Program 3 P4 is a week program with Monday-Friday as workdays and Saturday-Sunday as days off. The 7 top bars indicate Monday through Sunday.

By default, program 1 is selected.

How to define comfort periods and economy periods

Note: When defining the starting time of the 4 periods keep in mind that the thermostat will start heating/stop heating at the given time. Therefore some periods should start and end before, to compensate for the time it takes to heat up or cool down.

1. Press the clock pinhole with a small screw driver, pencil, or needle.
   The display now changes from temperature to time display.



2. Keep the • button pressed for 2 seconds.
   The currently selected timer program starts to flash.

3. Use ▲▼ to select the desired program and press • to accept .
   The first period bar (morning) starts flashing.

4. Use ▲▼ to change the start time of this period (in increments of 15 minutes) and press • to accept .

5. Repeat Step 4 to define the start time of the day, evening and night periods.
   Note: When setting the time periods you cannot go back to the previous time period until the last one is set. This is to ensure that the periods do not overlap.

6. Press • again and the preset comfort temperature starts flashing.

7. Use ▲▼ to change it and press • to accept .

8. Press • again and the preset economy temperature starts flashing.

9. Use ▲▼ to change it and press • to accept .
   It can also be set to "off".

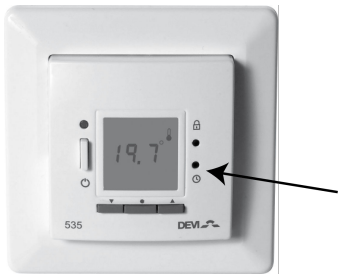
2.4 Minimum Floor Temperature

Note: Minimum floor temperature only applies if the thermostat is configured to use a combination of room and floor sensor.

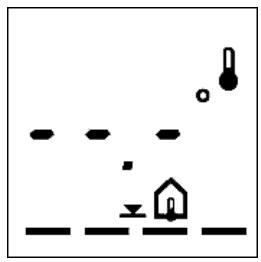
This setting will overrule any other set point as you always want e.g. 20°C at the floor sensor

How to set the minimum floor temperature

1. Press the clock pinhole with a small screw driver, pencil, or needle to access thermostat settings.
   The display now changes from temperature to time display.



2. Use the arrow buttons ▲▼ until you reach the minimum floor temperature and press the • button.
   The preset minimum floor limit temperature starts flashing.
   --.-° means that the function is disabled.



3. Use the arrow buttons ▲▼ to select the minimum temperature.

4. Press the • button to accept.
   The floor temperature is now kept above the specified lower limit.

2.5 Frost Protection

How to set the thermostat in frost protection mode

1. Hold down ▼ until you reach the lowest setting, then press ▼ again.
   A frost symbol ❄ now appears and the temperature display flashes.

2. To accept, press • or leave it flashing for 10 seconds.

How to turn off frost protection mode

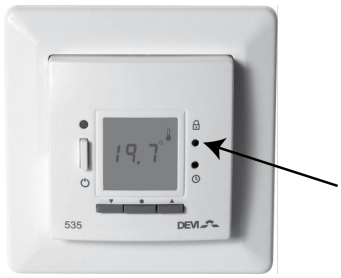
1. Press ▲ (0.5sec).

2.6 Safety Lock

The safety lock is used for preventing undesirable changes to the thermostat settings, i.e. all buttons will be locked until the safety lock is turned off again.

How to turn the safety lock on and off

1. Press the lock pinhole with a small screw driver, pencil, or needle.
   If the safety lock was turned off, it will now be turned on and vice versa.
   When turned on, a lock symbol appears on the thermostat display.



2.7 Switching Between Floor and Room Temperature

How to display the room temperature

Note: This option only applies if the thermostat is configured to use a floor sensor only.

1. Press ▲ and ▼ at the same time for 2 seconds.
   The room sensor symbol is now displayed.

To return to the default display, press ▲ and ▼ again.

How to display the floor temperature

Note: This option only applies if the thermostat is configured to use a combination of room and floor sensor.

1. Pressing ▲ and ▼ at the same time for 2 seconds.
   The floor sensor symbol now appears, and the floor sensor temperature will be displayed for 2 minutes.

2.8 Turning the Thermostat On and Off

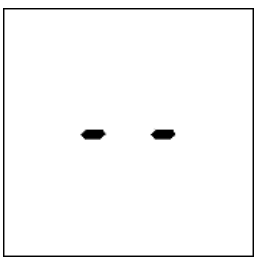
How to turn the thermostat off

1. Hold down ▼ until you reach 5.0°.
   Then press ▼ again twice.
   OFF appears on the display.
2. Press • to accept.

How to turn the thermostat on

When the thermostat is off, two lines are shown on the display.

1. Press ▲ (0.5sec).



3 Error Messages

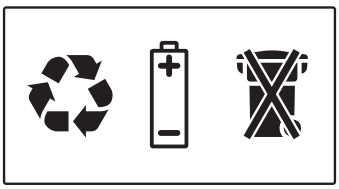
Light Indications (LED)

No light	The system is turned off.
Green light	System is standing by, set point temperature reached
Green light flashing	Floor sensor is defect
Red light	System is heating
Switching between red and green light	The floor temperature limit prevents the set point room temperature from being reached.

Error code	Problem	Solution
Clock symbol flashing in display	Time settings were lost due to power cut.	The thermostat resumes to manual mode.
E4 symbol flashing in display	The thermostat has overheated and has switched off.	Let the thermostat cool for period. Then switch the thermostat off and on. If the error persists contact your authorized installer.
E5 symbol flashing in display	Floor sensor short circuited.	If the error persists contact your authorized installer.
E6 symbol flashing in display	Floor sensor disconnected.	If the error persists contact your authorized installer.

4 Warranty

5 Disposal Instruction



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